

REMARKS/ARGUMENTS

Upon the entry of the Amendment, claims 1-21 are pending and under examination. Applicant has amended claims 1 and 3 and added claims 20 and 21. No new matter has been added.

Claims 1-3 and 7-19 were rejected under 35 U.S.C. §102(a) as being anticipated by Richardson (U.S. Patent 6,081,762). Claims 7-13 were rejected under 35 U.S.C. §102(e) as being anticipated by Teramura (U.S. Patent 6,226,5881). Claims 4-6 were rejected under 35 U.S.C. §103(a) as being unpatentable over Teramura in view of Sielagoski (U.S. Patent 6,393,352). For the following reasons, Applicant respectfully requests reconsideration and withdrawal of the rejections.

Before the rejections are specifically discussed, Applicant would like to provide a general description of the claimed invention and the cited references.

1. The Claimed Invention

The conventional ACC cannot fully accomplish the desired driving level required by a driver, and therefore the performance of the ACC is designed to be on the safe side. As a result, there occurs so phenomena that the vehicle becomes a slow acceleration during overtaking, and further the vehicle results to be accelerated when the preceding vehicle is lost in a curved road. As a result, the performance of the conventional ACC is not satisfactory. After the ACC is cancelled due to an action of the driver, when the driver hopes to resume the ACC, the driver is required to set a new cruise speed and to switch to restart the ACC. As a result, the driver would experience the burden of restarting the ACC, and may not resume the ACC.

According to the claimed invention, the ACC adds to the conventional ACC functions for resuming the ACC by selecting one of a plurality of traveling environmental states at a time when the driver stops a predetermined operation for canceling the ACC after the ACC has been cancelled by the predetermined operation. In this manner, the ACC is executed in accordance with the condition of the traveling environment at a time of resuming the ACC after the ACC has been cancelled without any switching operation of the driver. Whereby the ACC is resumed in conformity with

the traveling environment and it is possible to control the ACC by paying more attention to the driver's mind.

2. The Cited References

a. The Richardson Reference

When a driver's own vehicle losses track of a target or a preceding vehicle in a curved road when the driver's own vehicle is driven under the ACC of a follow mode, the ACC is changed to a cruise mode to accelerate the vehicle to a set cruising speed. Richardson teaches that the cruising speed is decelerated to a cruise speed corresponding to the lateral acceleration rate which is determined by the speed of the vehicle, the weight of the vehicle and the steering angle. However, it should be noted that, in Richardson, the ACC controls to finally be the predetermined or original cruising speed.

b. The Teramura Reference

Teramura discloses an ACC comprising an informing device for indicating the state of the control system where the speed of the present vehicle is positioned in the upper and lower limits of a vehicle speed range and the set cruising speed, so that a driver can easily understand the state of the control system.

c. The Sielagoski Reference

When the ACC controls to keep a certain distance between cars, Sielagoski changes a deceleration upper limit for decelerating the vehicle by automatically controlling the brake in accordance with the vehicle speed, in order not to cause discomfort to the driver.

3. Rejections of the Claims

We now turn to the rejections of the claims. The following will point out that each claim recites features not taught or suggested by the cited references.

a. Claims 1-3 and 14-19

According to the invention defined by Claims 1-3 and 14-19, the ACC is resumed under a certain condition after the ACC has been cancelled (referring to portions in which the ACC turns from OFF to ON in the second graphs from the top in Figs. 9A and 9B). In the claimed invention, moreover, the ACC resumed controlling the vehicle under a new cruise speed set on the basis of a traveling environment at a time when the driver stops an operation by which the ACC is cancelled (referred to as "NEW CRUISE SPEED" in the bottom graphs of Figs. 9A and 9B).

On the other hand, in Richardson, when the present vehicle losses a target vehicle on a curved road, since the ACC accelerates the present vehicle to a set cruise speed believing mistakenly that there is no preceding vehicles. In Richardson, in order to avoid such a mistake, the cruising speed is decelerated to a cruise speed corresponding to the lateral acceleration rate which is determined by the speed of the vehicle, the weight of the vehicle and the steering angle.

However, Richardson does not disclose the features of the claimed invention that the ACC is cancelled due to a predetermined operation of the driver and the ACC is resumed to control the vehicle under a new cruise speed set on the basis of a traveling environment at a time when the driver stops the operation by which the ACC is cancelled.

b. Claims 7-13

These claims are prepared in view of the following.

As to Claims 7 and 8, when the driver performs a braking operation at a low speed, the ACC operation is kept or the ACC is automatically resumed even if the ACC has been cancelled.

As to Claims 9 and 10, when the driver accelerates the vehicle traveling under the ACC at a speed of 60-100 km/h by an accelerator pedal operation to a speed over 125 km/h and then the acceleration is stopped, responsive to the stoppage, the ACC is maintained or automatically resumed.

As to Claim 11, when the driver shifts up while traveling at a speed of 60-100 km/h in the ACC, the ACC is maintained or automatically resumed. And, when the

driver shifts down while traveling at a speed of 60-100 km/h in the ACC, the ACC is cancelled.

As to Claim 12, whether or not the ACC is maintained or cancelled is determined in accordance with the amount of steering operation.

As to Claim 13, whether or not the ACC is maintained or cancelled is determined in accordance with the vehicle speed with a turn-signal operation.

On the other hand, Teramura discloses an information apparatus which enables the driver to easily understand the state of the control by the ACC by indicating in what state the present traveling speed is positioned between the upper and lower limits of a traveling speed range and the set cruise speed. Therefore, Teramura does not disclose the features of the claimed invention defined in Claims 7-13.

c. Claims 4-6

As to Claim 4, an upper limit of a set cruise speed for the ACC during actuation of a wiper is lower than during non-actuation of the wiper.

As to Claims 5 and 6, when the driver decelerates the vehicle by a brake operation, the ACC is maintained or automatically resumed in case the deceleration of the vehicle is small, and the ACC is cancelled in case the deceleration of the vehicle is large.

Sielagoski determines a limit value of the deceleration for the ACC in accordance with the speed of the vehicle, but does not disclose changing an upper limit of the cruise speed for the ACC in accordance with whether or not the wiper is operated (as Claim 4). Moreover, Sielagoski does not disclose determining whether or not the ACC is maintained or cancelled in accordance with the degree of deceleration of the vehicle generated by a brake operation of the driver (as Claims 5 and 6).

Teramura discloses an information apparatus which enables the driver to easily understand the state of the control by the ACC by indicating the present traveling speed between the upper and lower limits in a traveling speed range and a set cruise speed. However, Teramura does not disclose the features of Claims 4-6.

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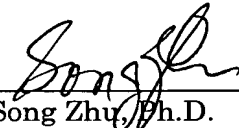
Accordingly, even if Sielagoski and Teramura are combined, it is not possible to obtain the subject matter of Claims 4-6.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (CAM #: 056203.50989US).

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